

To: Robin, George[Robin.George@epa.gov]; Dermer, Michele[Dermer.Michele@epa.gov]; Rumrill, Nancy[Rumrill.Nancy@epa.gov]
From: Coffman, Joel
Sent: Tue 6/14/2016 1:46:13 PM
Subject: RE: Class II to Class I Permits

Hey Deep Team: Below is my proposed response to this person that will be converting a Class II well into a Class I UIC permit. Anything you would add to my proposed response? Joel

Hello Matt:

A discussion of possible seismic activity is required along with appropriate references. Include detailed maps of the known fault trace location as it relates to the well or proposed well location. Include some discussion on possible effects on the injection project of maximum expected earthquake magnitude on the fault near the project, including proposed monitoring of injection project for damage immediately following a significant seismic event that could affect the project.

Typically the AOR is a minimum of ¼ mile, but, is also based on injection rates, pressures and volumes. The pressure front (area in which injection related activities increases pressures in the injection formation – which can either be measured or modeled) also comes into play. Some projects can have an AOR of several miles if injection causes far ranging pressure increases in an injection formation.

Any available well logs for nearby wells, and, if available construction diagrams are required. We are particularly interested in plugged and abandoned wells that penetrate into the proposed injection zone and details on their abandonment. Mud plugging of slotted or screened intervals into a nearby injection zone is not considered a viable P&A and wells with improper P&A will have to have corrective actions (proper plugging) applied prior to permit being issued.

You will model the effects of 10 years anticipated injection into injection wells (the length of time for a UIC Class I Non Hazardous Permit). This modeling will include the projected injection waste front and projected pressure fronts based on proposed injection volumes, rates and pressures. If a modeling plan becomes necessary, we will inform you as a part of the permit application process.

I will look into finding permit application examples I can forward to you and don't hesitate to ask more questions.

Joel Coffman Groundwater UIC Office

P.G./Physical Scientist 415.972.3530

U.S. EPA Region 9 | 75 Hawthorne Street (WTR-3.2) | San Francisco, CA 94105



United States Environmental Protection Agency

From: Matt Stikes [mailto:mwsclimbs@yahoo.com]

Sent: Monday, June 13, 2016 3:18 PM

To: Coffman, Joel <Coffman.Joel@epa.gov>

Cc: Albright, David <Albright.David@epa.gov>; Engelman, Alexa <ENGELMAN.ALEXA@EPA.GOV>; Gary Brierley <gbrierley@envirotechteam.com>; Adam Rogge <arogge@camsops.com>

Subject: Re: Class II to Class I Permits

Joel,

Thanks again for meeting with us last week. I had some further questions regarding the Badger Creek water disposal well conversion to Class I. Some of the major topics of concern include:

Geologic stability of the location, Badger is near the Kern Front fault separating Kern River from Kern Front field, the fault is active and has surface expression about 1000' east of the well, a recent wireline depth determination was run reaching almost original effective depth, which shows that no significant movement has occurred at the well in the past 25 years. The location of the fault at the well is interpretative, could entirely miss the well or may cross depending on inclination of the fault plane.

What will the AOR distance be for the application, 1/4 mile or larger? Additionally, will casing diagrams be required for wells within the AOR that do not penetrate the proposed injection zone (Olcese) or the caprock?

Without other nearby wells that penetrate the Olcese zone, would a monitoring plan be required and if so what form would it take?

We are pursuing alternative options to provide disposal

Also, if you could share any example applications that may be of assistance. We have the Alon refinery example in Bakersfield, but a few others would help us with a template.

Thanks for your help in this process,

Matt Stikes, PG

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From: "Coffman, Joel" <Coffman.Joel@epa.gov>
To: Matt Stikes <mwsclimbs@yahoo.com>
Cc: "Albright, David" <Albright.David@epa.gov>; "Salera, Jerry@DOC" <Jerry.Salera@conservation.ca.gov>; Adam Rogge <arogge@camsops.com>; Joe Selgrath <selgrath@envirotechteam.com>; Gary Brierley <gbrierley@envirotechteam.com>; "Engelman, Alexa" <ENGELMAN.ALEXA@EPA.GOV>; "Moffatt, Brett" <Moffatt.Brett@epa.gov>
Sent: Friday, June 3, 2016 11:24 AM
Subject: Class II to Class I Permits

Here is the information for the Conference call on June 8th from 10 – 11 AM.. This is for discussion of wells currently permitted as Class II that have been determined to need EPA UIC Class I Permits.

Specifically for this call, we are discussing the WCAC operated wells that include Chalk Cliff, Badger Creek, McKittrick and Live Oak.

Dial-In Number: (866) 299-3188

Conference Code: **9723733**

Thanks,

Joel Coffman Groundwater UIC Office

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From: Matt Stikes [<mailto:mwsclimbs@yahoo.com>]

Sent: Thursday, June 02, 2016 2:56 PM

To: Coffman, Joel <Coffman.Joel@epa.gov>

Cc: Albright, David <Albright.David@epa.gov>; Engelman, Alexa <ENGELMAN.ALEXA@EPA.GOV>; Moffatt, Brett <Moffatt.Brett@epa.gov>; Dermer, Michele <Dermer.Michele@epa.gov>; Salera, Jerry@DOC <Jerry.Salera@conservation.ca.gov>; Adam Rogge <arogge@camsops.com>; Joe Selgrath <selgrath@envirotechteam.com>; Gary Brierley <gbrierley@envirotechteam.com>

Subject: Re: Live Oak Class I

Joel,

Thank you for the response regarding WCAC power plant water disposal wells. Unfortunately, I can only speak on behalf of the WCAC operated wells which include Chalk Cliff, Badger Creek, McKittrick, and Live Oak (rows 2-5). Our understanding was that only Badger Creek and Live Oak were required to switch to Class I as they have stopped supplying steam to their associated oil field. Chalk Cliff and McKittrick plants are still delivering steam as was their initial design.

WCAC would be glad to participate in a possible EPA meeting with other operators in the same situation. I'd recommend Jerry Salera with DOGGR who could provide a thorough list of other cogen operators with Class II wells.

As far as a possible conference call we are available on June 8-9 to discuss details of Badger Creek and Live Oak. As far as a group meeting is concerned, sometime after June 20th would work for us.

Thanks for your help and consideration.

Best regards,

Matt Stikes, PG

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